

# Math Lesson on Divisibility Rules

created with  taskstream**Author:** Jeremy Wood and Jessica Crocker**Based on lesson by:****Date created:** 12/04/2012 1:57 PM EST ; **Date modified:** 12/04/2012 2:35 PM EST

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## GENERAL INFORMATION

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<b>Subject(s)</b>	Mathematics
<b>Topic or Unit of Study</b>	Divisibility Rules
<b>Concept(s)</b>	Students will learn how to divide by the 2, 5, and 10 rule. Students will also learn which numbers go into the 2, 5, and 10 divisibility rule.
<b>Grade/Level</b>	Grade 4
<b>Time Allotment</b>	1 class periods. 45 Mins. per class.
<b>Assessment of Prior Knowledge</b>	To assess prior knowledge, we will orally ask the students what they know about division and practice some division problems that they have worked on previously. We will record their answers with anecdotal notes to know which students will need additional help throughout the lesson.
<b>Instructional Materials</b>	<ul style="list-style-type: none"><li>• 2,5, and 10 Chart</li><li>• pencils</li><li>• paper</li><li>• Exit Ticket Question</li><li>• Smart board activity</li><li>• Divisibility Center</li></ul>
<b>Resources</b>	<ul style="list-style-type: none"><li>• Materials and resources: Mrs. Ross and Original Idea</li></ul>
<b>Summary</b>	We will have a game on smart board as the students walk into the classroom. The students can ask prompting questions as they wait for class to start. We will review with the students their prior knowledge about division and ask if they already know some division facts. Then we will explain three different divisibility rules (2,5, and 10). After introducing and explaining the three rules, we will split the class up into two different groups. One group will play a game on the smart board with Jeremy. The second group will play divisibility rules out of the math center with Jessica. After 15-20 minutes the two groups will switch. We will end the lesson by handing out exit tickets. The students will complete the exit ticket before leaving and we will assess how well they comprehended the lesson.

## STANDARDS AND OBJECTIVES

### Standards

**Display:** ☐ Collapse All ☒ Expand All

#### ▼ MD- Maryland Content Standards

##### ▼ Subject: MATHEMATICS

##### ▼ Grade: 4

▼ **Content Standard:** Standard 6.0 Knowledge of Number Relationships and Computation/Arithmetic- Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil or technology.

##### ▼ Area: B. Number Theory

##### ▼ Indicator Statement: 1. Apply number relationships

##### ▼ Objective: a. Identify and use divisibility rules

**Assessment Limit:** Assessment limit: Use the rules for 2, 5, or 10 with whole numbers (0 – 1000)

#### ▼ MD- Technology Literacy Standards for Students (Technology Literacy by 8th Grade)

▼ **Standard:** Standard 3.0 – Technology for Learning and Collaboration: Use a variety of technologies for learning and collaboration

##### ▼ Grade: Grade 4

##### ▼ Topic: A. Learning

##### ▼ Skill: 1. Use and explain how technology tools enhance learning

**Indicator:** a) Use technology tools, including software and hardware, from a range of teacher-selected options to learn new content or reinforce skills.

### Lesson Objective(s)

Students will be able to identify the divisibility rules for 2, 5, and 10.  
Students will also be able to identify numbers that can be divided by 2, 5, and 10.

## PROCEDURES AND MODIFICATIONS

### Introduction(Motivation)

To motivate the students for the lesson, we will have the divisibility game up on the smart board. As the students walk into class, they can ask questions about division to get them interested about division.

### Teaching / Activities

1. Following the introduction, we will ask the students what they already know about division and some division facts that they already know. (Jessica)
2. Afterwards, we will introduce the concept of dividing by 2, 5, and 10. (Jessica)
3. We will start with how to divide by 2. We will inform the students that they can divide any number by 2 if the last number of the whole number is an even number (2,4,6,8,0). (Jessica)

4. Give examples on the white board of numbers that may be divisible by 2. (Jeremy)
5. Proceed with how to divide by 5. We will inform the students that they can divide any number by 5 if the last number of the whole number ends with either 5 or 0. (Jessica)
6. Give examples on the white board of numbers that may be divisible by 5. (Jeremy)
7. Then, go over what numbers are divisible by 10. We will inform the students that they can divide any number by 10 if the last number of the whole number end with a 0. (Jessica)
8. Randomize on the white board and give the class numbers. Then, call on a random student to tell you whether or not the number is divisible by 2, 5, 10, or all in some cases. (Jeremy)
9. Once the students have a grasp on the content, split them up into 2 groups. One group will be on the area rug and the other will be playing divisibility rule games at the tables. (Jessica)
10. Give the students 15-20 minutes at each station, then have them switch. (Jeremy w/ smartboard, Jessica w/ centers)

**Closure**

Upon completion of both stations, gather the students back to their seats and go over the divisibility rules again. This time, ask students questions like "when can a number be divisible by 2? By 5? By 10?" Assign the students a divisibility rules exit ticket to wrap up the lesson. (Jeremy & Jessica)

**Differentiated Instruction**

For students who have trouble concentrating on big numbers, we can assign those students numbers that only go up to the hundredths place on the exit ticket. For those students who are above, we can assign more problems that contain multiple answers for their exit tickets.

## ASSESSMENT / EVALUATION

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**Assessment/Rubrics**

To assess the students we will create an exit ticket. This exit ticket will be a chart sectioned off into 4 different rows. The first row will contain numbers. The second row will be labeled 2, the third row will be labeled 5, and the last row will be labeled 10. The students must look at the number in the first row and check off the correct divisibility rule (2,5, or 10) that goes into that number, some numbers may have multiple answers. By assigning this exit ticket, we will be able to see which students understand all three divisibility rules and which students need additional help learning those rules.

**Reflections****Jeremy's Reflections**

I was very surprised at the prior knowledge the students had and understood about division. They knew the concept of division and was very quick to understanding the divisibility rules. Since we only focused on the rules of dividing by 2, 5, and 10 we were able to focus more and students were able to understand the concepts better than if we were to give them the rules of dividing by 1-9.

Once we broke up into groups, we had one with a Smart Board and one with Math Centers. When planning, Jessica and I thought we had more time than we did so we planned at the center station for the students to get out centers and play any game they would like. However, by the time the students had to switch stations they hadn't had any time to play the centers because they were just getting done reading directions and setting everything up. This was one of the big things I would change about the lesson. I would have one uniform game that all students would play at the centers so time wouldn't be wasted on students making choices and learning how to play the game. This would also allow time for students to actually play a game and get something out of it.

When we taught the lesson for the second time, we had one single game for the centers and the lesson went much smoother. Students had time to play the games, and the students at the smart board had time to play their game. Therefore, students were able to get much more out of the lesson and we were able to learn and implement a plan in order to make a lesson better for the second time around.

Using the Smart Board was very stressful while integrating it into the lesson. The reason for the frustration was the fact that the Smart Board was not properly supported nor was it stable. Therefore, everytime the monitor or the projector was nudged by a student we had to re-calibrate the board. This caused for wasted time as well as stress to be added to the lesson. Also, when I first started to use the gamethe board was not working correctly and it was not detecting my finger to drag and drop things. I then had to connect wires that were disconnected and restart the computer.